

80. (Twice Amended) A process for making biaxially stretched, heat shrinkable film comprising:

extruding a melt plastified primary tube comprising a polymeric blend A consisting essentially of 20 to 85 weight percent of a first polymer having a melting point of 80 to 98°C comprising at least one copolymer of ethylene and hexene-1;

5 to 35 weight percent of a second polymer having a melting point of 115 to 128°C comprising at least one copolymer of ethylene and at least one α -olefin; and

D2 10 to 50 weight percent of a third polymer having a melting point of 60 to 110°C comprising at least one copolymer of ethylene and a vinyl ester or an alkyl acrylate; wherein said first and second polymers have a combined weight percentage of at least 50 weight percent, said weight percentage being based upon the total weight of said first, second and third polymers;

cooling said primary tube;

reheating said cooled tube to a draw point temperature of 65 to 88°C; ✓

biaxially stretching said tube to provide a transverse direction circumference of at least 2½ times the circumference of said primary tube and a machine direction length of at least 2½ times the length of a corresponding segment of said primary tube, and cooling said biaxially stretched tube to form a biaxially stretched, heat shrinkable film having a film thickness less than 10 mil (254 microns).

Please add the following new claims:

109. (New) A polymer blend of at least three copolymers comprising:

20 to 85 weight percent of a first polymer having a melting point of 80 to 98°C comprising at least one copolymer of ethylene and hexene-1;

D3 5 to 35 weight percent of a second polymer having a melting point of 115 to 128°C comprising at least one copolymer of ethylene and at least one α -olefin; and

10 to 50 weight percent of a third polymer having a melting point of 60 to 110°C comprising at least one copolymer of ethylene and a vinyl ester or an alkyl acrylate;

wherein said first and second polymers have a combined weight percentage of at least 50 weight percent, said weight percentage being based upon the total weight of said first, second and third polymers;

wherein at least one of said first, second, and third polymers comprises an interpolymer.

110. (New) A blend, as defined in Claim 109, wherein said first and second polymers comprises an interpolymer.

D3 111. (New) A flexible film comprising:

a heating sealing surface layer comprising a polymer selected from the group consisting of:

(a) at least 50% by weight of a copolymer of propene and at least one α -olefin selected from the group consisting of ethylene, butene-1, methylpentene-1, hexene-1, octene-1 and mixtures thereof having a propene content of at least 60wt. %, and (b) at least 50% by weight of a copolymer of ethylene and at least one α -olefin selected from the group consisting of propylene, butene-1, methylpentene-1, hexene-1, octene-1 and mixtures thereof and said polymer having a melting point of at least 105°C and a density of at least 0.900 g/cm³;

an intermediate layer;

a core layer;

an outer protective surface layer;

wherein at least one of said intermediate and said outer protective layers comprise a polymer blend of at least three copolymers comprising:

20 to 85 weight percent of a first polymer having a melting point of 80 to 98°C comprising at least one copolymer of ethylene and hexene-1;

5 to 35 weight percent of a second polymer having a melting point of 115 to 128°C comprising at least one copolymer of ethylene and at least one α -olefin; and

10 to 50 weight percent of a third polymer having a melting point of 60 to 110°C comprising at least one copolymer of ethylene and a vinyl ester or an alkyl acrylate; wherein said first and second polymers have a combined weight percentage of at least 50 weight percent, said weight percentage being based upon the total weight of said first, second and third polymers; and said core layer is disposed between said intermediate and said outer protective layers, and said film has a hot water seal strength of at least 200 seconds at 95°C.

D3 112. (New) A process for making biaxially stretched, heat shrinkable film comprising: extruding a melt plastified primary tube comprising a polymeric blend A comprising 20 to 85 weight percent of a first polymer having a melting point of 80 to 98°C comprising at least one copolymer of ethylene and hexene-1;

5 to 35 weight percent of a second polymer having a melting point of 115 to 128°C comprising at least one copolymer of ethylene and at least one α -olefin; and

10 to 50 weight percent of a third polymer having a melting point of 60 to 110°C comprising at least one copolymer of ethylene and a vinyl ester or an alkyl acrylate; wherein said first and second polymers have a combined weight percentage of at least 50 weight percent, said weight percentage being based upon the total weight of said first, second and third polymers;

cooling said primary tube;

reheating said cooled tube to a draw point temperature of 65 to 88°C;

biaxially stretching said tube to provide a transverse direction circumference of at least $2\frac{1}{2}$ times the circumference of said primary tube and a machine direction length of at least $2\frac{1}{2}$ times the length of a corresponding segment of said primary tube, and cooling said biaxially stretched tube to form a biaxially stretched, heat shrinkable film having a film thickness less than 10 mil (254 microns), wherein said resultant film has a ram puncture force of at least 70 Newtons, a ram puncture stress of at least 110 Mpa, and a tear propagation strength "x" such that $10 \leq x \leq 40$ grams per mil in each of the machine and transverse directions or $x < 25$ grams per mil in at least one of

113. (New) A process for making biaxially stretched, heat shrinkable film comprising:
extruding a melt plastified primary tube comprising a polymeric blend A comprising 20 to 85 weight percent of a first polymer having a melting point of 80 to 98°C comprising at least one copolymer of ethylene and hexene-1;
5 to 35 weight percent of a second polymer having a melting point of 115 to 128°C comprising at least one copolymer of ethylene and at least one α -olefin; and
10 to 50 weight percent of a third polymer having a melting point of 60 to 110°C comprising at least one copolymer of ethylene and a vinyl ester or an alkyl acrylate; wherein said first and second polymers have a combined weight percentage of at least 50 weight percent, said weight percentage being based upon the total weight of said first, second and third polymers;
cooling said primary tube;
reheating said cooled tube to a draw point temperature of 65 to 88°C;
biaxially stretching said tube to provide a transverse direction circumference of at least 2½ times the circumference of said primary tube and a machine direction length of at least 2½ times the length of a corresponding segment of said primary tube, and cooling said biaxially stretched tube to form a biaxially stretched, heat shrinkable film having a film thickness less than 10 mil (254 microns), wherein said resultant film has a ram puncture force of at least 120 Newtons, and a total energy absorption of at least 1.20 Joules.

114. (New) A process for making biaxially stretched, heat shrinkable film comprising:
extruding a melt plastified primary tube comprising a polymeric blend A comprising 20 to 85 weight percent of a first polymer having a melting point of 80 to 98°C comprising at least one copolymer of ethylene and hexene-1;
5 to 35 weight percent of a second polymer having a melting point of 115 to 128°C comprising at least one copolymer of ethylene and at least one α -olefin; and
10 to 50 weight percent of a third polymer having a melting point of 60 to 110°C comprising at least one copolymer of ethylene and a vinyl ester or an alkyl acrylate; wherein said first and second polymers have a combined weight percentage of at least 50 weight percent, said weight percentage being based upon the total weight of said first, second and third polymers;

cooling said primary tube;

reheating said cooled tube to a draw point temperature of 65 to 88°C;

biaxially stretching said tube to provide a transverse direction circumference of at least 2½ times the circumference of said primary tube and a machine direction length of at least 2½ times the length of a corresponding segment of said primary tube, and cooling said biaxially stretched tube to form a biaxially stretched, heat shrinkable film having a film thickness less than 10 mil (254 microns), wherein a multilayer primary tube is made by coextrusion or coating lamination and said resultant biaxially stretched film comprises:

a heating sealing surface layer comprising a polymer selected from the group consisting of:

D3 (a) at least 50% by weight of a copolymer of propene and at least one α -olefin selected from the group consisting of ethylene, butene-1, methylpentene-1, hexene-1, octene-1 and mixtures thereof having a propene content of at least 60wt. %, and (b) at least 50% by weight of a copolymer of ethylene and at least one α -olefin selected from the group consisting of propylene, butene-1, methylpentene-1, hexene-1, octene-1 and mixtures thereof, said polymer having a melting point of at least 105°C and a density of at least 0.900 g/cm³;

an intermediate layer;

a core layer comprising at least 80% by weight (based on said third layer's weight) of at least one copolymer of: EVOH; or vinylidene chloride with from 2 to 20 weight percent (based on said copolymer's weight) of vinyl chloride or methyl acrylate; and

an outer protective surface layer;

wherein at least one of said intermediate and said outer protective layers comprise said polymeric blend A and said core layer is disposed between said intermediate and said outer protective layers, and said film has a maximum ram puncture force of at least 100 Newtons, a hot water puncture resistance of at least 100 seconds at 95°C and a hot water seal strength of at least 200 seconds at 95°C.
